

Claims

1. A plant comprising a cell comprising a functional mammalian enzyme or functional fragment thereof providing N-glycan biosynthesis additionally having been provided with an expression vector comprising a nucleic acid encoding a thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof.
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2. A plant according to claim 1 wherein said enzyme comprises human β 1,4-galactosyltransferase.
3. A plant according to claim 1 or 2 wherein said thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof comprises an extended N-linked glycan.
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4. A plant according to claim 3 wherein a said extended N-linked glycan comprises galactose.
5. A plant according to claim 4 wherein a said extended N-linked glycan is devoid of xylose.
- 15 6. A plant according to claim 4 wherein a said extended N-linked glycan is devoid of fucose.
7. A plant according to anyone of claims 1 to 6 wherein said expression vector is derived from a plant virus.
8. A plant according to claim 7 wherein said virus is a tobamovirus such as tobacco mosaic virus.
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9. A plant according to anyone of claims 1 to 8 which comprises a tobacco plant.
10. A plant according to anyone of claims 1 to 9 wherein said gonadotrophin comprises FSH.
11. Use of a plant according to anyone of claims 1 to 10 to produce a desired thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof.
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12. Use according to claim 11 wherein said thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof comprises an extended N-linked glycan at least comprising galactose.

13. A method for obtaining a desired thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof comprising cultivating a plant according to anyone of claims 1 to 10 until said plant has reached a harvestable stage, harvesting and fractionating said plant to obtain fractionated plant material and at least partly isolating said thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor from said fractionated plant material.

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14. A plant-derived thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof comprising an extended N-linked glycan at least comprising galactose.

10 15. A plant-derived thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof obtained by a method according to claim 13.

16. Use of a thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof according to claim 14 or 15 for the production

15 of a pharmaceutical composition.

17. Use of a gonadotrophin or gonadotrophin-receptor or functional fragment thereof according to claim 14 or 15 for the production of a pharmaceutical composition for the treatment of a reproductive disorder.

18. A pharmaceutical composition comprising a thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof according to

20 claim 14 or 15.